UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/091,288	03/06/2002	Pekka Nikander	3772-8	5575

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EXAMINER
· PRIETO, BEATRIZ

ART UNIT	PAPER NUMBER
2142	

DATE MAILED: 02/01/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	Applicant(s)
	10/091,288	NIKANDER, PEKKA
Office Action Summary	Examiner	Art Unit
	Prieto B.	2142

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>22 November 2005</u>.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-22</u> is/are pending in the application.

    4a) Of the above claim(s) <u>12-16, 21-22</u> is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-11 and 17-20</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on <u>06 March 2002</u> is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☒ All   b)☐ Some * c)☐ None of:

      1.☒ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

DETAILED ACTION

1.   This communication is in response to reply filed 11/22/05, claims 1-11 and 17-20 have been examined, and claims 12-18 and 21-22 are withdrawn from consideration.

2.   Correction to the drawings to obviated previously raised objection has been considered. Objection is hereby withdrawn.

3.   Amendment(s) to claims 17 to obviated previously raised objection has been considered. Objection is hereby withdrawn.

Claim Rejection under 35 USC 103

4.   Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Perlman, et. al. U.S. 5,351,295 (referred to as Perlman hereafter) in view of Ford et. al. (US 6,101,499) (referred to as Ford hereafter).

Regarding claim 1, Perlman teaches a method comprising a stations or nodes ("host") coupled to a communication "IP" network (col 1/lines 15-23), the host using an address (col 2/lines 6-8), the method comprising:

applying a one-way coding function to a value "component" sent from the host, e.g. sender's address by a receiving station for authenticating the received value (col 2/lines 63-66, col 4/lines 42-51), and

if the result matches the interface identifier the host is assumed to be authentic, authorized to use the address, where a legitimate host is using its address, the and if the result does not match the interface identifier the host is assumed not to be authorized to use the address, where an legitimate station has been impersonated by using its address, and the receiving host takes the appropriate response when a match is found (col 2/lines 49-col 3/line 2, figs. 1-3, steps 18, 30, 36);

however although Perlman teaches the use on the sender's address contained in the data link header (i.e. a portion of an address), she does not explicitly teach where the host uses an "IP" address, the address comprising a first portion/part "routing prefix" and a second portion "interface identifier".

Ford teaches the use by hosts of an address (called IP), the address comprising a first portion/part (called routing prefix) and a second portion (called interface identifier) (col 2/lines 12-27), where

applying a one-way coding function to a value of the host, such as an interface identifier (col 9/lines 4-9) generate at value used as an address.

It would have been obvious to one ordinary skilled in the art at the time the invention was made given the teaches for verifying that a host is authorized to use an address, where an eavesdropper is not impersonating a legitimate host by using its address and suggestions for using an identifier which is unique to the host the teachings of Ford for automatically generating a unique identifier would have been readily apparent. One would be motivated to utilize an IP address of any format or any portion thereof automatically generated and ensuring that a legitimate host is using a provided IP address.

5.   Claims 1-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Perlman, et. al. U.S. 5,351,295 (referred to as Perlman hereafter) in view of Internet Draft: Privacy extensions for stateless address auto-configuration in IPv6, Thomas Narten, IBM, June 1999 (referred to as Narten hereafter).

Regarding claim 1, Perlman teaches a method comprising a stations or nodes ("host") coupled to a communication network (called IP) (col 1/lines 15-23), the host using an address (col 2/lines 6-8), the method comprising:

applying a one-way coding function to a value (called component) sent from the host, e.g. sender's address by a receiving station for authenticating the received value (col 2/lines 63-66, col 4/lines 42-51), and

if the result matches the interface identifier the host is assumed to be authentic, authorized to use the address, where a legitimate host is using its address, the and if the result does not match the interface identifier the host is assumed not to be authorized to use the address, where an legitimate station has been impersonated by using its address, and the receiving host takes the appropriate response when a match is found (col 2/lines 49-col 3/line 2, figs. 1-3, steps 18, 30, 36); however Perlman teaches the use on the sender's address contained in the data link header (i.e. a portion of an address), she does not explicitly teach where the host uses an address (called IP), the address comprising a first portion/part (called routing prefix) and a second portion (called interface identifier).

Narten teaches the use by hosts of an address (called IP), the address comprising a first portion/part (called routing prefix) and a second portion (called interface identifier) (p. 2), where applying a one-way coding function, e.g. MD5 hash to a value of the host, such as an interface identifier (p. 6) generate at value used as an address.

It would have been obvious to one ordinary skilled in the art at the time the invention was made given the teaches for verifying that a host is authorized to use an address, where an eavesdropper is not

impersonating a legitimate host by using its address and suggestions for using an identifier which is unique to the host the teachings of Ford for automatically generating a unique identifier would have been readily apparent. One would be motivated to utilize an IP address of any format or any portion thereof automatically generated using history values or randomly generated sequence of hash values and ensuring that a legitimate host is using a provided IP address.

Regarding claim 2, said component comprise a "hash" value being one of a sequence of related values (Perlman, col 2/lines 53-55), hash value being one of a sequence of iterations (Narten: p. 6).

Regarding claim 3, said components comprise a shared secret (i.e. public key) generated by said host or obtained by said host from another authorized party (Perlman: col 2/lines 40-48).

Regarding claim 4-5, said components comprise an "initial interface" identifier corresponding to link layer address of the host (Perlman: col 2/lines 6-8, Narten, initial boot time value p. 6).

Regarding claim 6, said components comprise a counter value to control the iteration sequence in the algorithm (Narten, p. 6), which identifies the next history value to be used ("position") of the received hash value in said sequence iteration (Narten: p. 6).

Regarding claim 7, said series of iteration each generating a sequence of hash values in step (2) of the iteration (Narten, p. 6) are derived at the host by applying a one-way coding function to a random number "seed value" and a shared secret "public" key (Perlman: col 2/lines 63-66, col 4/lines 42-51, Narten, seed value, p. and pseudo-random sequence p. 6).

Regarding claim 8, wherein said series of iterations of hash values are derived at the host by applying a one-way coding function to a seed and an initial interface identifier (Narten, p. 6).

Regarding claim 9, series of iterated hash values are derived at the host by applying a one-way coding function to a seed, an initial interface identifier, as discussed on claim 8, and further a share secret "public" key (Perlman: col 2/lines 63-66, col 4/lines 42-51).

Regarding claim 10, deriving a hash value from the received hash value to provide a value "derivative" to which the one-way coding function is applied, the derived hash value being the last hash value in the iteration based on the previous value iteration (Narten, p. 6).

Regarding claim 11, wherein in the event of a first IP address verification, the hash value received from the host is the hash value preceding the final hash value in the sequence and for each subsequent verification process, the next previous hash value must be received from a stable storage (Narten, p. 6).

Claim Rejection under 35 USC 102

6.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7.   Claims 17-18 are rejected under 35 U.S.C. 102(b) as being anticipated by Hellman (US 5,872,917).

Regarding claim 17, Hellman teaches a user host coupled to a network accessing a server computer (col 1/lines 9-35), the host is able to receive data packets sent to that address, i.e. the address of the host where messages are sent to, i.e. using a the host address as a destination address, wherein, e.g. a dial-up telephone connection over the Internet uses an IP based addressing scheme (col 2/lines 13-36, col 1/lines 18-35), the method comprising:

sending a message "challenge" to the host (col 2/lines 37-49, col 3/lines 41-49);

receiving a response from the host (col 2/lines 37-49, col 3/lines 41-49); and

verifying that the received response is a correct response to the challenge (col 2/lines 37-49, col 3/lines 41-49 and col 6/lines 36-56).

Regarding claim 18, said challenge comprises a randomly generated number (Hellman: col 2/lines 37-42, col 6/lines 57-67) and the response comprises the challenge (Hellman: col 2/lines 42-45

8.   Claims 19-20 are rejected under 35 U.S.C. 103(a) as being unpatentable Hellman in view of Internet Draft: Privacy extensions for stateless address auto-configuration in IPV6, Thomas Narten, IBM, June 1999 (referred to as Narten hereafter).

Regarding claims 19-20, however Hellman teaches randomly generated number to which a one-way function is applied, he does not teach concatenating an address with a randomly generated number

Narten teaches appending "concatenating" an IP address portion with a 64-bit value, predetermined or randomly generated (Narten: p. 6) and applying a one-way coding function to this combination (Narten p. 6)

It would have been obvious to one ordinary skilled in the art at the time the invention was made given the teachings of Hellman for authenticating a user, the teachings of Narten for authenticating a user by detecting un-legitimate users using others IP addresses would be readily apparent. One would be motivated to One would be motivated to utilize an IP address of any format or any portion thereof automatically generated using history values or randomly generated sequence of hash values and ensuring that a legitimate host is using a provided IP address.

Response to Argument(s)

9.   Regarding claim 1 is rejected as being unpatentable over Perlman in view of Ford, it is argued (p. 1 of remarks) that Perlman does not teach a method of verifying that a host coupled to an IP network is actually authorized to use an IP address which the host claims to own.

In response to the above-mentioned argument, a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. The subject matter of a properly construed claim is defined by the terms that limit its scope. It is this subject matter that must be examined. As a general matter, the grammar and intended meaning of terms used in a claim will dictate whether the language limits the claim scope. Language that suggests or makes optional but does not require steps to be performed or does not limit a claim to a particular structure does not limit the scope of a claim or claim limitation. Statements of intended use of field or use is an example of language that may raise a question as to the limiting effect of the language in a claim (see MPEP 2106).

10.   Regarding claim 1 is rejected as being unpatentable over Perlman in view of Ford, it is argued (p. 1 of remarks) that Perlman does not teach a method of proving ownership of IP addresses.

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., "proving ownership of IP

addresses") are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). Claim read comparing the result or derivative of a result against a interface identifier part of the IP address to determine that the host is authorized or not to use the IP address.

Perlman teaches that if the result matches the interface identifier the host is assumed to be authentic, authorized to use the address, where a legitimate host is using its address, the and if the result does not match the interface identifier the host is assumed not to be authorized to use the address, where an legitimate station has been impersonated by using its address, and the receiving host takes the appropriate response when a match is found (col 2/lines 49-col 3/line 2, figs. 1-3, steps 18, 30, 36); however although Perlman teaches the use on the sender's address contained in the data link header (i.e. a portion of an address), she does not explicitly teach where the host uses an "IP" address, the address comprising a first portion/part "routing prefix" and a second portion "interface identifier". Ford teaches the use by hosts of an address (called IP), the address comprising a first portion/part (called routing prefix) and a second portion (called interface identifier) (col 2/lines 12-27), where applying a one-way coding function to a value of the host, such as an interface identifier (col 9/lines 4-9) generate at value used as an address.

11.   Applicant's arguments presented in the above-mentioned reply have been fully considered but not rendered persuasive.

12.   **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Prieto, B. whose telephone number is (571) 272-3902. The Examiner can normally be reached on Monday-Thursday from 6:30 to 4:00 p.m. If attempts to reach the examiner by telephone are unsuccessful, the Examiner's Supervisor, Andrew T. Caldwell can be reached at (571) 272-3868. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3800/4700.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system, status information for published application may be obtained from either Private or Public PAIR, for unpublished application Private PAIR only (see http://pair-direct.uspto.gov or the Electronic Business Center at 866-217-9197 (toll-free).

Any response to this action should be mailed to:
   Commissioner of Patents and Trademarks
   P.O. Box 1450
   Alexandria, VA 22313-1450

Hand carried or delivered to:
   Customer Service Window located at the Randolph Bldg.
   401 Dulany St.
   Alexandria, VA 22314

Faxed to the Central Fax Office:
   (571) 273-8300 (New Central Fax No.)

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B. Prieto
Primary Examiner
TC 2100
January 27, 2006

BEATRIZ PRIETO
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1/27/06